

## **Advisory Committee on Immunization Practice (ACIP) Votes to Recommend Routine Use of Combined Tetanus, Diphtheria and Pertussis (Tdap) Vaccines for Adolescents**

Two Tetanus Toxoid, Reduced Diphtheria Toxoid and Acellular Pertussis Vaccine, Adsorbed (Tdap) products were licensed by the FDA in 2005 as single dose booster vaccines to provide protection against tetanus, diphtheria, and pertussis. GlaxoSmithKline's BOOSTRIX® is indicated for persons aged 10–18 years ([www.fda.gov/cber/label/tdapgla050305LB.pdf](http://www.fda.gov/cber/label/tdapgla050305LB.pdf)), and sanofi pasteur's ADACEL™ is indicated for persons aged 11–64 years ([www.fda.gov/cber/label/tdapave061005LB.pdf](http://www.fda.gov/cber/label/tdapave061005LB.pdf)). On June 30, 2005 the Advisory Committee on Immunization Practices (ACIP) voted to recommend the routine use of Tdap vaccines in adolescents aged 11–18 years in place of tetanus and diphtheria toxoids (Td) vaccines ([www.cdc.gov/nip/pr/pr\\_tdap\\_jun2005.htm](http://www.cdc.gov/nip/pr/pr_tdap_jun2005.htm)).

Pertussis is a highly contagious respiratory tract infection; immunity from childhood vaccination wanes over time leaving adolescents susceptible. In 2003, U.S. adolescents aged 11–18 years made up 36% (4,144) of the total 11,647 reported cases; reported cases underestimate the true burden of pertussis in adolescents. The clinical presentation of pertussis in adolescents ranges from mild cough illness to classic pertussis (i.e., paroxysms of cough, post-tussive emesis, and inspiratory whoop). The morbidity of pertussis in adolescents can be substantial with prolonged cough illness lasting weeks to months. Hospitalization and complications (e.g., pneumonia and rib fractures) occur in  $\leq 2\%$  of reported cases. Pertussis outbreaks in schools with adolescents are disruptive and lead to significant public health control efforts.

The primary objective of the adolescent pertussis booster vaccination program is to protect adolescents against pertussis. Key ACIP recommendations for Tdap (single dose) and Td use in adolescents aged 11–18 years are summarized below. These ACIP recommendations are under review by the Director of CDC and the Department of HHS and will become official when published in **CDC's Morbidity and Mortality Weekly Report (MMWR)** ([www.cdc.gov/mmwr/](http://www.cdc.gov/mmwr/)).

### **Routine Tdap Vaccination in Adolescents 11-18 Years of Age**

- Adolescents aged 11–18 years should receive a single dose of Tdap instead of Td for booster immunization against tetanus, diphtheria and pertussis if they have completed the recommended childhood DTP/DTaP vaccination series\* and have not received Td or Tdap. The preferred age for Tdap vaccination is **11-12 years**; routinely administering Tdap to young adolescents will reduce the morbidity associated with pertussis in adolescents.
- Adolescents aged 11–18 years who received Td but not Tdap are encouraged to receive a single dose of Tdap to provide protection against pertussis if they have completed the recommended childhood DTP/DTaP vaccination series.\* A 5-year interval between Td and Tdap is encouraged to reduce the risk of local or systemic reactions. However, intervals shorter than 5 years between Td and Tdap can be used. The benefits of protection from pertussis generally outweigh the risk of local or systemic reactions in settings with increased risk from pertussis (e.g., pertussis outbreaks and close contact with an infant aged <6 months).†
- Vaccine providers should administer Tdap (or Td) and tetravalent meningococcal polysaccharide-protein conjugate vaccine ([MCV4] Menactra™) (which contains diphtheria toxoid) during the same visit if both vaccines are indicated and available (MCV4 recommendations available at [www.cdc.gov/mmwr/preview/mmwrhtml/rr5407a1.htm](http://www.cdc.gov/mmwr/preview/mmwrhtml/rr5407a1.htm)).‡
- Tdap (or Td) should be administered with other vaccines that are indicated during the same visit when feasible. Each vaccine should be administered using a separate syringe at different anatomic sites. Some experts recommend administering no more than two injections per deltoid, separated by one inch during one visit.

### **Special Situations for Tdap (single dose) and Td Use in Adolescents 11-18 Years of Age**

- **Nonsimultaneous vaccination:** If simultaneous vaccination is not feasible, inactivated vaccines can be administered at any time before or after a different inactivated or live vaccine. Tdap (or Td) and MCV4 vaccines (which contain diphtheria toxoid) can be administered using any sequence. There is a theoretical risk of increased rates of local or systemic reactions when two diphtheria toxoid-containing vaccines are administered within a short interval (on different days).‡
- **Lack of Availability of Tdap or MCV4:** If Tdap and MCV4 are both indicated for adolescents but only one vaccine is available, the available vaccine should generally be administered.

- **Use of Td when Tdap is Not Available:** When Tdap is indicated but not available, vaccine providers should administer Td if the last DTP/DTaP/DT/Td vaccine was >10 years earlier to provide protection against tetanus and diphtheria. Td can be deferred temporarily when the last DTP/DTaP/DT/Td was administered within 10 years and the adolescent is likely to return for follow-up. Vaccine providers should maintain a system to recall adolescents when Tdap/Td vaccination is deferred
- **Pertussis Outbreaks and Other Setting with Increased Risk from Pertussis:** The routine Tdap vaccination recommendations for adolescents should be used. Post-exposure chemoprophylaxis and other pertussis control guidelines are available at [www.cdc.gov/nip/publications/pertussis/guide.htm](http://www.cdc.gov/nip/publications/pertussis/guide.htm)
- **Tetanus Prophylaxis in Wound Management:** Adolescents who require a tetanus toxoid-containing vaccine as part of wound management should receive a single dose of Tdap instead of Td if they have not previously received Tdap; if Tdap is not available or was previously administered, adolescents who need a tetanus toxoid-containing vaccine should receive Td. ([www.cdc.gov/mmwr/preview/mmwrhtml/00041645.htm](http://www.cdc.gov/mmwr/preview/mmwrhtml/00041645.htm), Table 5)
- **History of Pertussis:** Adolescents who have a history of pertussis generally should receive Tdap according to the routine recommendations.
- **No History of DTP/DTaP/Td/Tdap Vaccination:** Adolescents who have never received tetanus-diphtheria-pertussis vaccination should receive a series of three vaccinations. The preferred schedule is a single Tdap dose, followed by a dose of Td  $\geq 4$  weeks after the Tdap dose and a second dose of Td  $\geq 6$  months after the Td dose. Tdap may substitute for any one of the 3 Td doses in the series.
- **No History of Vaccination with Pertussis Components:** Adolescents who have not received pertussis vaccines but completed the recommended tetanus-diphtheria vaccination series\* with pediatric DT or Td generally should receive Tdap according to the routine recommendations if they do not have a contraindication to the pertussis components.
- **Pregnancy:** If otherwise indicated, administering Tdap to adolescents who are in the second or third trimester of pregnancy should be considered. Pregnancy is not a contraindication for Tdap or Td.

**Contraindications and Precautions for Tdap/Td:** The Vaccine for Children (VFC) Program Resolution: Vaccines to Prevent Diphtheria, Tetanus and Pertussis summarizes contraindications and precautions, some of which differ for Tdap and pediatric DTaP ([www.cdc.gov/nip/vfc/acip\\_resolutions/605dtap.pdf](http://www.cdc.gov/nip/vfc/acip_resolutions/605dtap.pdf).)

**Reporting of Adverse Events after Vaccination:** All clinically significant adverse events should be reported to VAERS, even if causal relationship to vaccination is uncertain. VAERS reporting forms and information are available electronically at [www.vaers.org/](http://www.vaers.org/) or by calling (800) 822-7967. Providers are encouraged to report electronically at <https://secure.vaers.org/VaersDataEntryintro.htm>.

**Future Considerations:** ACIP did not make a recommendation for use of Tdap among adults aged  $\geq 19$  years. Recommendations will be considered during future ACIP meetings after members have reviewed pertussis immunization strategies for adults.

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\* Children should receive 5 doses of DTP/DTaP/DT before the 7-year-old birthday; if dose 4 was administered on or after the 4-year-old birthday, dose 5 is not needed. Children who began the tetanus-diphtheria vaccination series at aged  $\geq 7$  years required 3 doses of Td to complete the primary series.

† The safety of intervals as short as 2 years between Td and Tdap is supported by a Canadian study among nearly 6000 children/adolescents (available at [www.fda.gov/ohrms/dockets/ac/05/transcripts/2005-4097t1.htm](http://www.fda.gov/ohrms/dockets/ac/05/transcripts/2005-4097t1.htm), Page 198).

‡ A pre-licensure study demonstrated that simultaneous vaccination with Td and MCV4 was acceptably safe; the safety of simultaneous vaccination with Tdap and MCV4 is inferred from this study. Td followed one month later by MCV4 was studied and rates of local reactions were comparable to simultaneous vaccination. Other schedules of MCV4 and Td, and MCV4 and Tdap have not been studied ([www.fda.gov/cber/label/mpdtave011405LB.pdf](http://www.fda.gov/cber/label/mpdtave011405LB.pdf)).